



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,404	09/24/2003	Viacheslav A. Petrov	UC0318 US NA	5035

23906 7590 11/26/2004

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER

KEYS, ROSALYND ANN

ART UNIT PAPER NUMBER

1621

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,404

Applicant(s)

PETROV, VIACHESLAV A.

Examiner

Rosalynd Keys

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Status of Claims

1. Claims 1-8 are pending.
Claims 1-8 are rejected.

Information Disclosure Statement

2. The information disclosure statement filed January 29, 2004 has been considered.

Claim Objections

3. Claim 2 is objected to because of the following informalities: the term C₁-C₁₀-fluorinatedalkenyl should be changed to C₁-C₁₀-fluorinated alkenyl; the term C₁-C₁₀-fluorinatedoxyalkyl should be changed to C₁-C₁₀-fluorinated oxyalkyl; and the term C₁-C₁₀-fluorinatedoxyalkenyl should be changed to C₁-C₁₀-fluorinated oxyalkenyl. Appropriate correction is required, i.e. put a space between fluorinated and alkenyl, between fluorinated and oxyalkyl and between fluorinated and oxyalkenyl.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term C₁-C₁₀ oxyalkyl in claim 1, on line 9 of page 11, and in claim 7, line 2 of

Art Unit: 1621

page 13, is indefinite because on page 4 of the specification the term "oxyalkyl" is defined as an alkyl moiety in which at least one $-CH_2-$ unit has been replaced with an oxygen atom.

However, in claims 1 and 8 the oxyalkyl can be selected from a C_1 oxyalkyl, which does not contain a $-CH_2-$ unit. Further, it appears as though the applicant wants to distinguish "oxyalkyl" from "alkoxy", since both are disclosed in the claims, however, the examiner does not see how the two differ. For instance, based upon the definition of "oxyalkyl" given on page 4 of the specification, if the oxyalkyl is a C_2 oxyalkyl then the $-CH_2-$ unit of ethyl would be replaced by oxygen thus giving a methoxy group. The applicant is encouraged to give an example of an oxyalkyl group in order to give the examiner a better understanding of what applicant means term oxyalkyl.

The term C_1 - C_{10} alkoxy C_1 - C_{10} oxyalkyl in claim 1, on line 12 of page 11, and in claim 7, line 6 of page 13, is indefinite for the reasons given above for the term C_1 - C_{10} oxyalkyl. In addition if the oxyalkyl group is a C_1 -oxyalkyl group then is the C_1 - C_{10} alkoxy C_1 - C_{10} oxyalkyl group for example OCH_3O . If so, then this is improper because carbon cannot have five bonds and oxygen cannot be monovalent. The OCH_3O substituent does not follow the structural theory of organic chemistry, wherein carbon is defined as tetravalent and oxygen is divalent. The applicant is encouraged to give an example of a C_1 - C_{10} alkoxy C_1 - C_{10} oxyalkyl group in order to give the examiner a better understanding of what applicant means by the term C_1 - C_{10} alkoxy C_1 - C_{10} oxyalkyl. Further, if the C_1 - C_{10} alkoxy C_1 - C_{10} oxyalkyl should actually be C_1 - C_{10} alkoxy and a C_1 - C_{10} oxyalkyl then the applicants should place a comma after C_1 - C_{10} alkoxy.

The claims are further indefinite because the claims define the oxyalkenyl and fluorinated alkenyl as containing 1-10 carbon atoms, however on page 4, lines 3-4 the applicants' define alkenyl as having from 2 to 10 carbon atoms.

Art Unit: 1621

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamal et al. (Tetrahedron Letters, Vol 43, No. 41, August 2002, pp. 7353-7355).

Kamal et al. teach the synthesis of fluoroalkyl aryl ethers having the claimed Structural formula (see entire disclosure, in particular entry i and l in Table 1 on page 7354).

8. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Farbwerke Hoechst A. G. (GB 1230932).

Farbwerke Hoechst A. G. prepare the compound o-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether (i.e., 1-(1-methylpropyl)-2-2(1,1,2,2-tetrafluoroethoxy) benzene, which has the claimed chemical structural formula (see example 9 on page 3 of the patent and the compound structure on the attached CAPLUS abstract).

9. Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasushi et al. (Patent abstracts of Japan, publication number 06-293691).

Yasushi et al. disclose a compound having the claimed structure which is useful for synthesizing liquid crystal displays which are used as a display for electronic devices such as televisions, personal computers, word processors, etc. (see entire disclosure).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented

Art Unit: 1621

and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farbwerke Hoechst A. G. (GB 1230932).

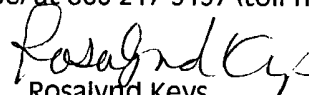
Farbwerke Hoechst A. G. disclose the compound o-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether, which differs as a positional isomer of the compound p-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether as disclosed in claim 6. The o-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether of Farbwerke Hoechst A. G. are useful for making dyes and plant-protective agents. One having ordinary skill in the art at the time the invention was made would have found the claimed p-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether obvious over the o-sec.-butyl-phenol- $\alpha,\alpha,\beta,\beta$ -tetrafluoroethyl ether as disclosed by Farbwerke Hoechst A. G. because compounds which are position isomers, i.e., compounds having the same radicals in physically different positions on the same nucleus, are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). Thus, the skilled artisan would have found it obvious to modify the ortho compound of Farbwerke Hoechst A. G. to obtain the claimed para compound in a search for new tetrafluoroethyl phenyl ethers useful for making dyes and plant-protective agents.

Art Unit: 1621

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, R and F 3:00-8:00 pm and T-W 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rosalynd Keys
Primary Examiner
Art Unit 1621

November 24, 2004